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Building State Capacity to Address Children's Environmental Health

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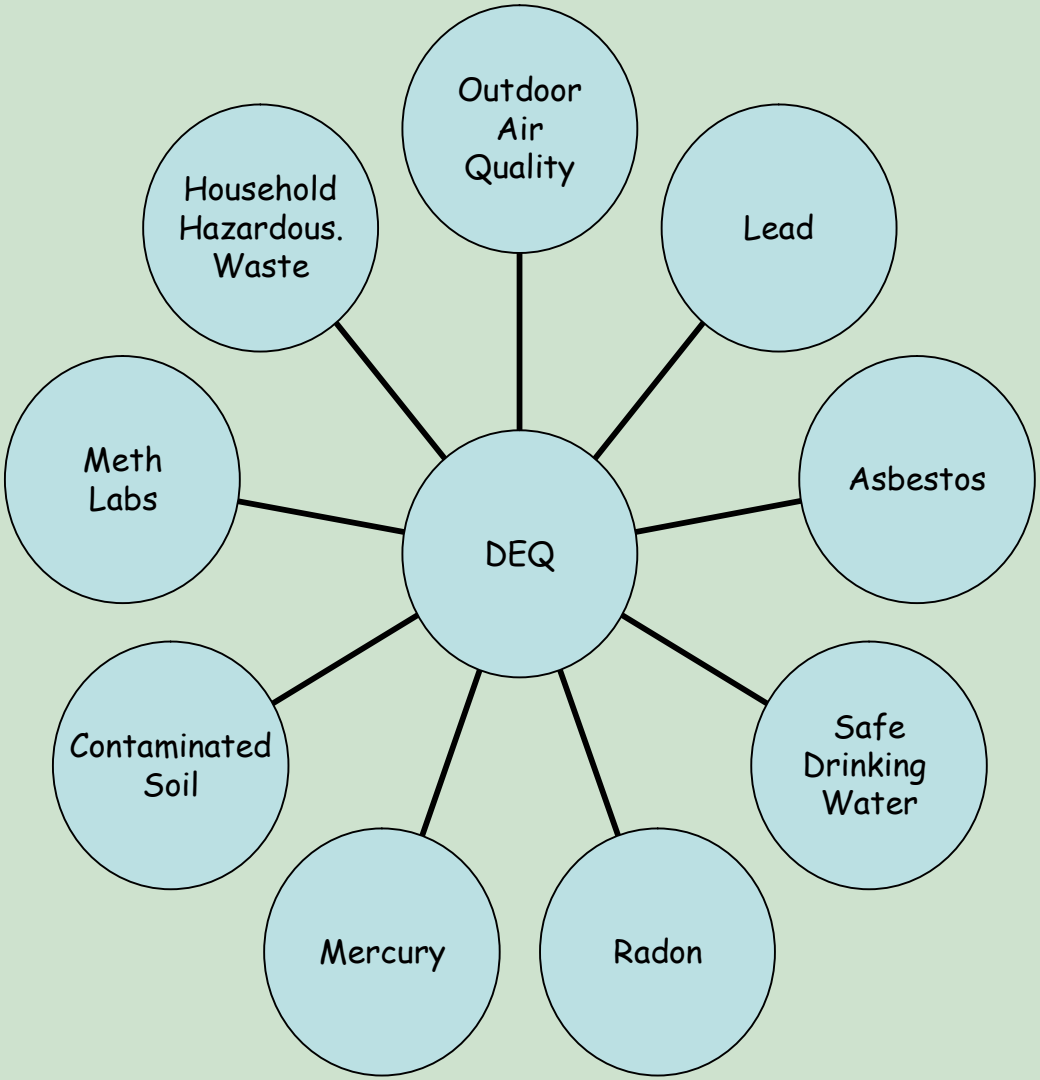
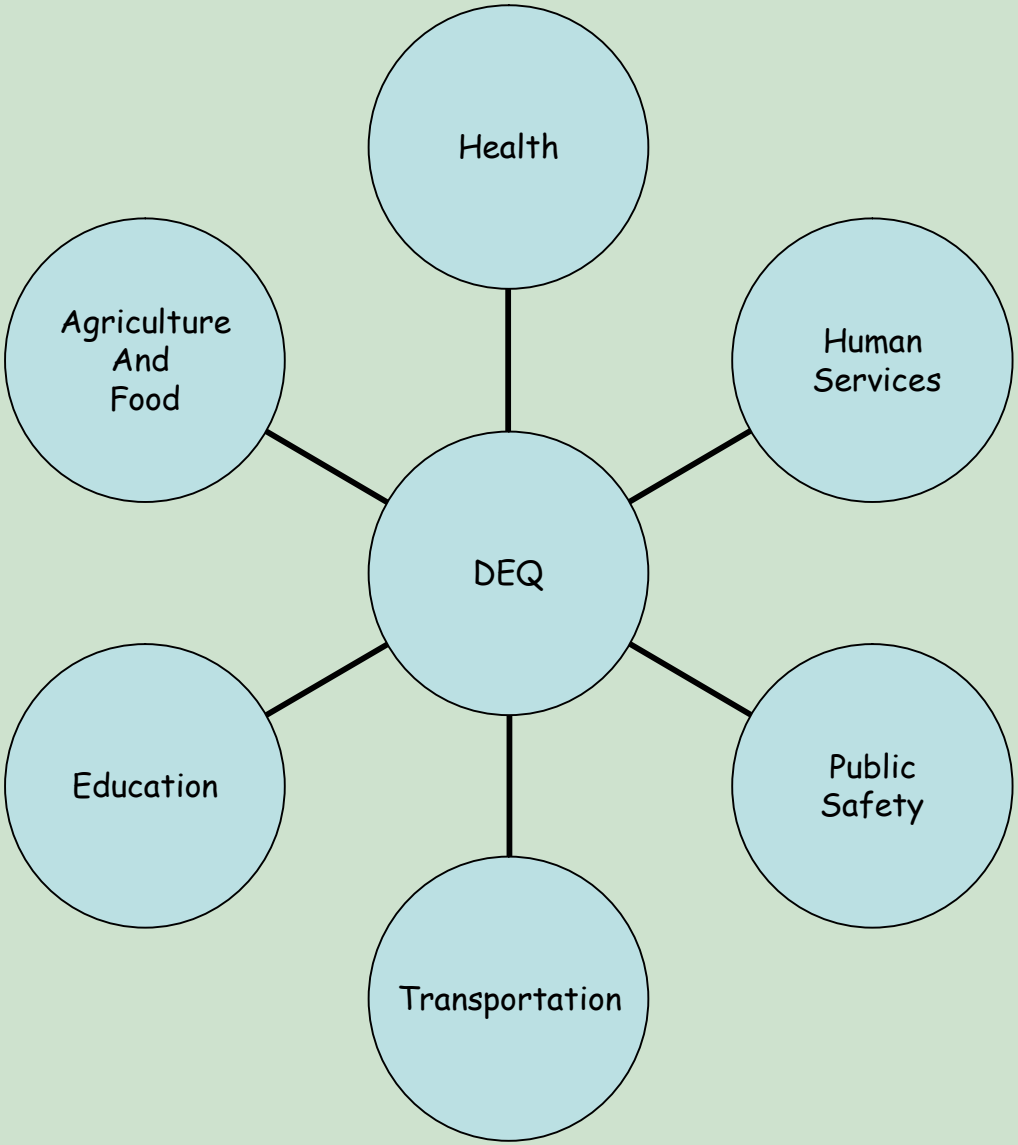
Executive Director, Utah DEQ

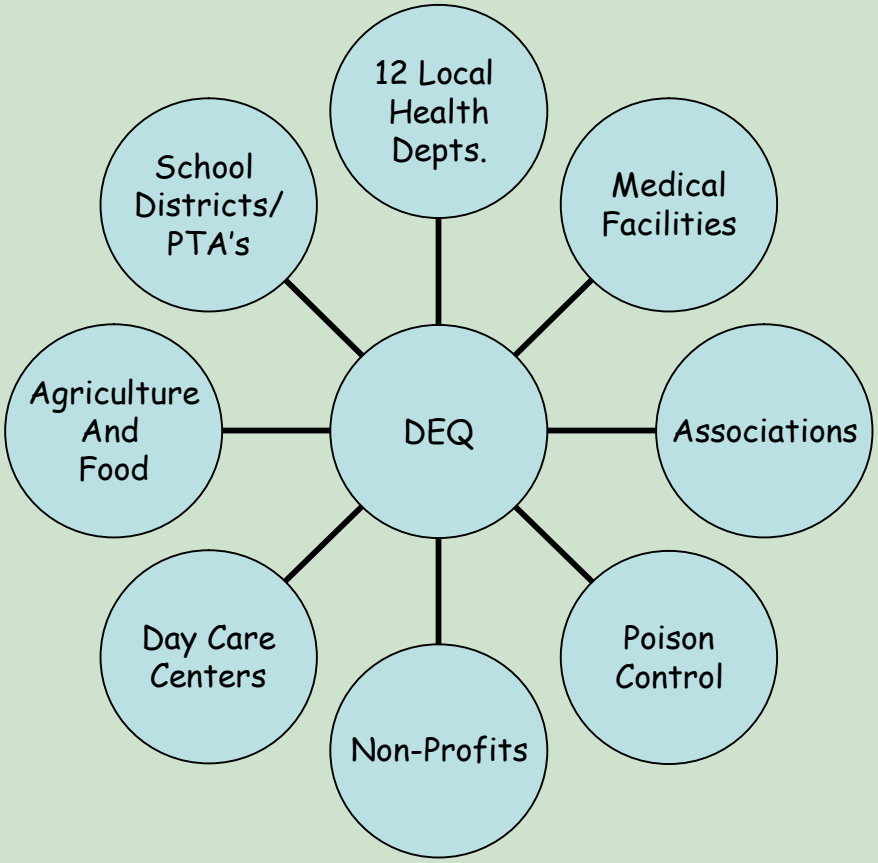
Coordination within UDEQ



Coordination with Other State Agencies



Coordination with Local Governments and Other Agencies



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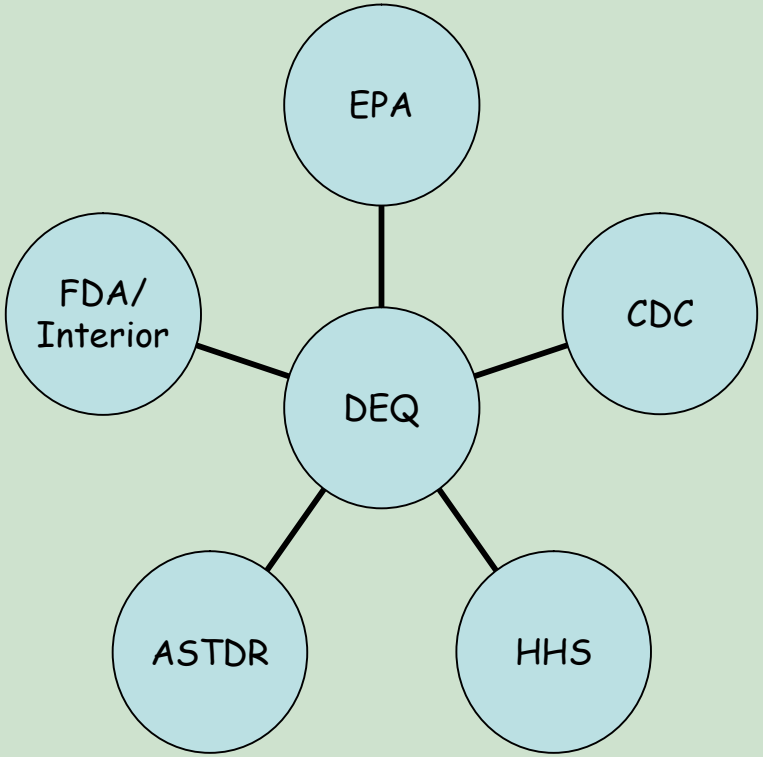
Coordination with Federal Agencies



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Core vs. “Voluntary” Programs

- All core programs protect human health and the environment.
- Need to consider the specific needs of children.
- “Voluntary” programs: (non-regulatory, pollution prevention, leadership) share the same goals.
- “Voluntary” programs must be incorporated into core programs. They cannot be another layer.

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Building State Capacity

- Leveraging existing FTE's
- Establishing a Single Point of Contact
- Identifying and "owning" problems
- Collaborating to find solutions
- Implementing solutions
- Evaluating progress and making adjustments
- Reporting results

Utah Examples

- Hosted Children's Environmental Health Regional Summit, Fall 2004
- Created Children's Health Web Site
  http://www.childrenshealth.utah.gov/
- Established Utah Partnership to support the National Children's Study (U of U Vanguard Center)
- Sponsored ECOS Resolution Supporting Funding the NCS
  http://www.ecos.org/files/1924_file_Copy_of_Resolution_06_6.pdf

Utah Examples

Childhood Asthma

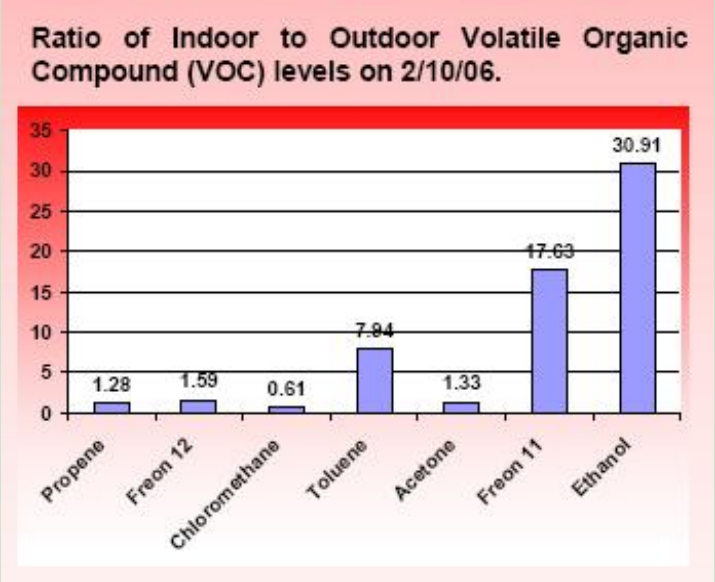
- Tools for Schools
- Hawthorne School Partnership
- Cache Valley

Indoor and Outdoor Air Pollutants and their Potential Relationship to Lung Function

Question

Does keeping children indoors on high air pollutant days protect health?

The intent of this **pilot** study is to establish a relationship between outdoor air pollution and changes in children's lung function after playing outdoors. Health advisories are issued that recommend staying indoors during high pollution events, but there are social and physical consequences of denying children their play periods. The goal was to quantify the pulmonary function benefits for asthmatic children staying indoors on high pollution days.



- VOCs and coarse particles are greater indoors implying indoor sources
- Low infiltration of outdoor submicron particulate matter into the school
- Indoor VOCs are dominated by indoor sources

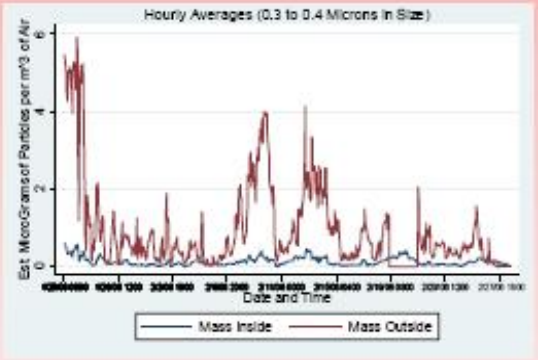
Methods

- Interdisciplinary indoor and outdoor aerosol measurements combined with respiratory function testing before and after recess period at an urban elementary school.

The Utah Div. of Air Quality air monitoring station on an elementary school campus

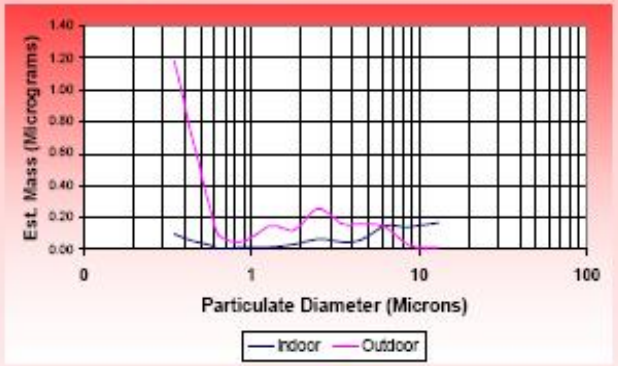
Monitoring equipment in the school library

Results

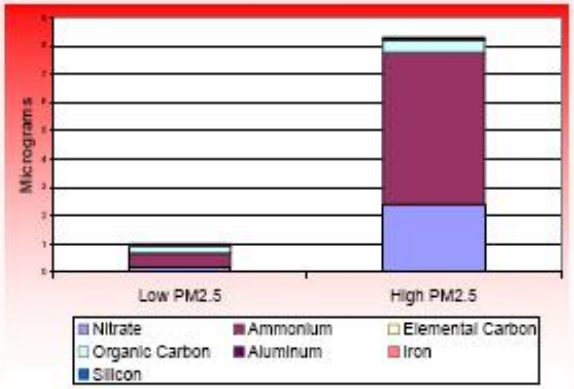


Indoor and Outdoor hourly averaged particle mass in 0.3 to 0.4 micron size over the 5-week study period.

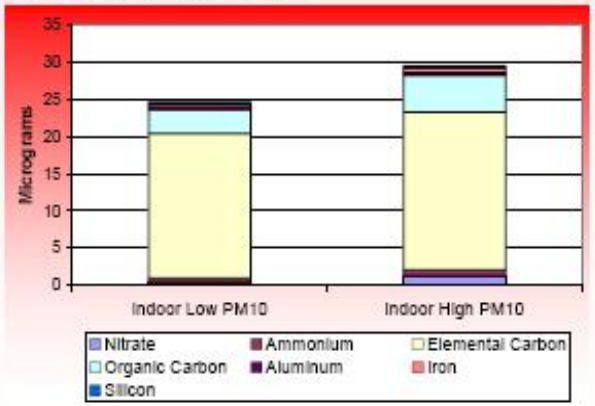
Average particulate pollution on a high particulate day (2/10/06). Values reported by mass vs. particle size.



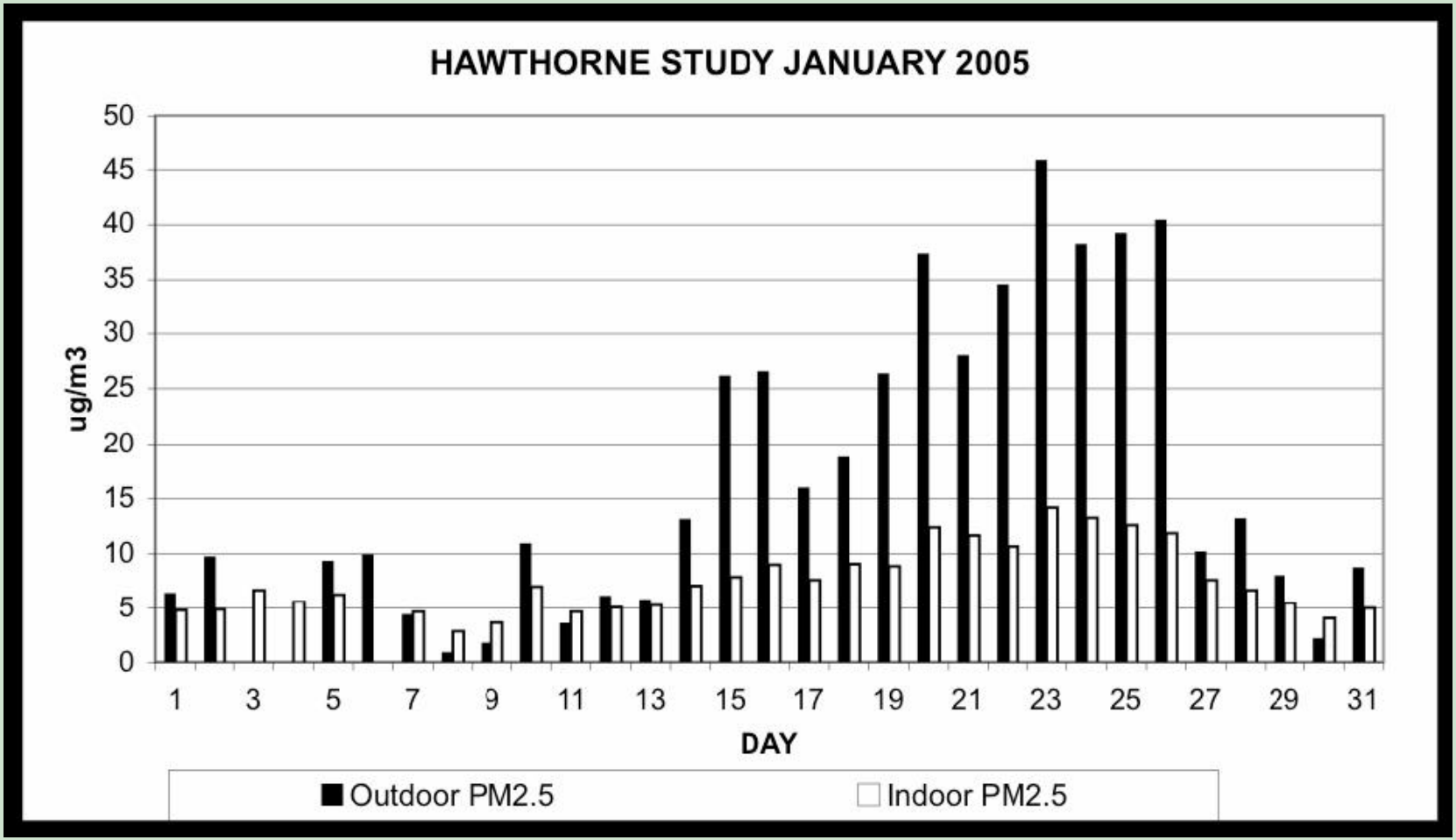
Speciated Outdoor PM2.5



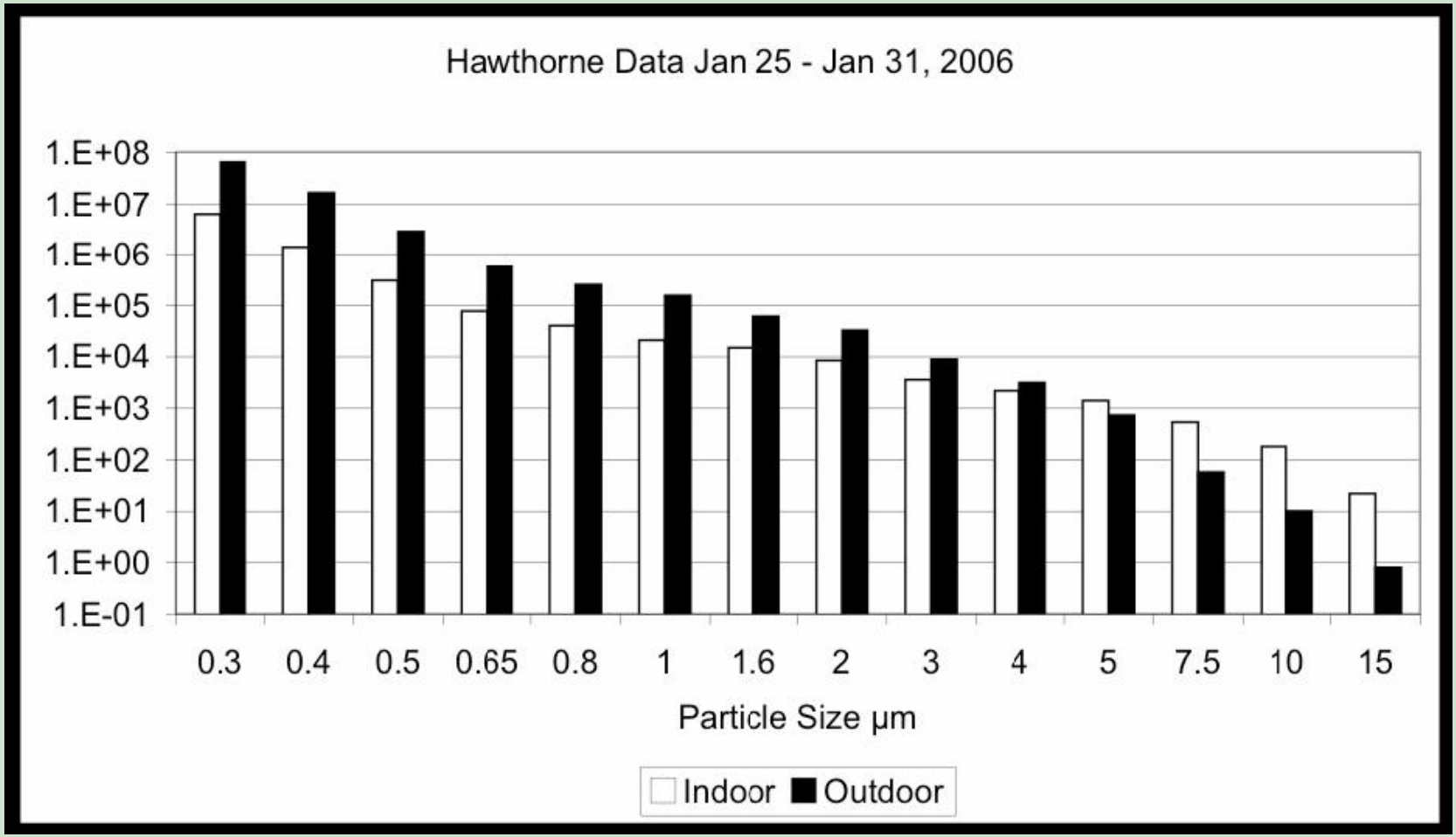
Speciated Indoor PM10



- Indoor Particulate Matter (PM) 10 micron size and smaller is dominated by Carbon
- Outdoor $PM_{2.5}$ is dominated by Ammonium and Nitrate



This figure shows the daily values for indoor and outdoor PM2.5 mass as measured by the TEOM in January 2005. There appears to be a base level of 2–4 µg/m3 of indoor PM on clean air days, and a substantial reduction from outdoor PM2.5 mass concentration on days with high ambient PM.



This figure illustrates the indoor and outdoor particle size distribution. Size data are the average for a 6-day period in January 2006. The submicron particle number is lower indoors, but indoor sources appear to contribute to the larger particles.

Utah Examples

- Get the Mercury Out
  - Schools
  - Homes
  - Statewide collections 2006: 379 pounds Hg
  - 2,000 digital thermometers distributed for exchange

  http://www.deq.utah.gov/Issues/Mercury/get_the_mercury_out.htm

- School Chemical Clean Outs
  - Two High Schools
  - www.deq.utah.gov/schools

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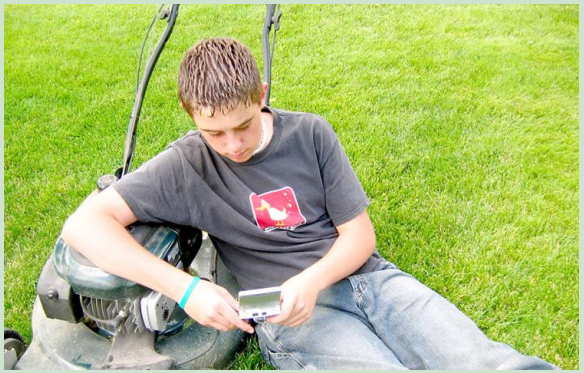
Utah Examples

Choose Clean Air

- Tips for kids on Bookmarks
- 17,000 Bookmarks distributed through the PTA
- www.cleanair.utah.gov



Kids Can Choose Clean Air

What difference can a kid make?
As much as the whole sky!
YOU

are big enough to make choices to help the sky stay blue. And if you do it and your friends do it and everyone they know does it, that adds up to one **HUMUNGOUS** choice to stop pollution.

All it will take is 10 points each day. Best of all, *YOU* get to choose.

Earn 10 points by:
Using Your Feet

Tell mom or dad you don't need a ride. You have two good feet that like clean air!

Let the car stay parked ALL DAY. No moaning! (Or whining.) You can still get to where you need to go. Try:

* Walking
* Running
* Rollerblading
* Riding your bike
* Scooting your scooter

Or Going With Someone Else

(But only if Mom or Dad will take you - or say its okay to go with someone they know.)
Some great ideas:
* Get on the bus
* Catch a ride with a friend

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Earn 5 points for:
Using Those Muscles!

Show grandpa you are as strong as he was when he was a boy. Use the same kind of push mower he did - it doesn't make ANY pollution! Guess what else is a good choice? Using a broom instead of a leaf blower. (He used one of those too!)

Earn 3 points for:
Resting When It's Hot

If it's really hot outside - about **95 degrees** or more - then mowing your grass with a gas powered mower is not a good idea and it's really not a good idea to use the weed whacker. A **good idea** is to chill - read a great book - and wait until later.

And if your mom says you have to "do something" and that something is to paint the fence (like Tom Sawyer did), use a water-based paint. And, if someone says, "let's go gas up the car and get a treat," say, "thank you. I'd really like a treat." (Because that's a fun thing to do with someone you like.) Then add, "we should **wait** until evening to go get gas." And if that person asks, "Just how are we supposed to get there?" show them all the fun ways to use THEIR feet!!

Earn 1 point for Remembering:
* Saving energy helps

By the way - If Mom and Dad want to know what THEY can do, they can learn more here:
www. CleanAir.utah.gov

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What Works

- Single Point of Contact
- Leveraging Resources
- Issue Ownership
- Partnerships
- Good Science
- Plan Development and Implementation
- Measuring and Adjusting
- Celebrating Success